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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,135	04/15/2004	Benne Velsher	VIA-001	3134

23701 7590 06/23/2005

RAUSCHENBACH PATENT LAW GROUP, LLC
P.O. BOX 387
BEDFORD, MA 01730

EXAMINER
WONG, TINA MEI SENG

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/709,135	VELSHER, BENNE
	Examiner	Art Unit
	Tina M. Wong	2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/28/04, 5/3/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,445,837 to Hanza.

In regards to claim 1, Hanza discloses a multi-source optical module comprising an optical circuit (105) positioned on a base, the optical circuit having a first and second input, a first and second optical course (4) that are positioned on the base relative to the optical circuit, a first lens (23/24) positioned between an output of the first optical source and the first optical input of the optical circuit, a second lens being positioned between an output of the second optical source and the second input of the optical circuit. (Figure 5a) But Hanza fails to specifically disclose the optical sources, the inputs and the lenses being positionable so that they are aligned. However, Hanza does disclose a phase mask pattern, which is placed on the surface of the circuit in order to determine the position of the waveguide and optical elements. Therefore, although not it is not explicitly stated for the lens to be positionable so that they are aligned, it would have been obvious at the time the invention was made to a person having ordinary skill in the art that the lenses are positionable so that they are aligned since Hanza discloses a phase pattern mask placed on the circuit in order to align all of the optical elements.

In regards to claim 2, Hanza discloses an optical integrated circuit.

In regards to claim 3, Hanza fails to specifically disclose a discrete-type integrated circuit. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have provided a discrete-type integrated circuit, since applicant has not disclosed that a discrete-type integrated circuit solves any stated problem or is for any particular purpose and it appears the invention would work equally as well with an optical integrated circuit as disclosed by Hanza and as claimed by Applicant as another type of optical circuit applicable to the module.

In regards to claims 4 and 5, Hanza fails to specifically disclose the optical circuit attached to a base with an adhesive material or by soldering. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have either used adhesive or solder to attach the base with the optical circuit, since applicant has not disclosed by soldering or using an adhesive solves any stated problem or is for any particular purpose and it appears the invention would work equally as well attaching the base to the circuit by soldering or adhesive as claimed by applicant or by fabricating the circuit on the base as disclosed by Hanza.

In regards to claim 6, Hanza fails to specifically disclose at least one of the first and second optical sources to be a semiconductor laser. However, Hanza broadly discloses a general laser diode to be one of the optical sources. Hanza further states the optical elements in the invention are not restricted to the disclosed optical elements. Furthermore, Hanza discloses in the "Background of Invention" that many of the elements used in the disclosed optical module are semiconductor type devices. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have provided a semiconductor laser.

In regards to claim 7, Hanza fails to expressly disclose at least one of the first and second optical sources soldered to the base. However, Hanza discloses in the "Background of Invention" that soldering optical devices to the base has been accomplished previous to Hanza. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have soldered optical devices to the base, since it has been accomplished previous to Hanza.

In regards to claims 8 and 9, Hanza discloses the claimed invention except for placing the second optical source positioned relative to the first optical source on the case to increase thermal impedance between the optical sources and placing the first and second optical sources so that the first optical source is thermally isolated from the second optical course. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have placed the optical sources in the desired location, since it has been held that arranging parts of an invention involves only routine skill in the art. *In re Japikse, 86 USPQ 70* Furthermore, by thermally isolating the optical sources and increasing thermal impedance, the optical module would be performing at a more optimal capacity.

In regards to claim 10, Hanza fails to specifically disclose at least one of the first and second optical sources to be an array of optical sources. However, Hanza states the optical elements in the invention are not restricted to the disclosed optical elements or a single optical element. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have provided an array of optical sources, since Hanza broadly discloses a variety of different optical sources to be used.

In regards to claims 11 and 12, Hanza fails to specifically disclose at least one of the first and second lenses to be a silicon lens or a plastic lens. However, Hanza broadly discloses a lens, and does not further limit the type of lens that may be used. Furthermore, Hanza states the optical elements in the invention are not restricted to the disclosed optical elements or the disclosed property of the optical elements. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have provided a silicon or plastic lens, since Hanza broadly discloses a variety of different lenses to be used and applicant has not disclosed the specific silicon or plastic lens solves any stated problem or is for any particular purpose and the invention would work equally as well with either of the lenses.

In regards to claim 13, Hanza fails to specifically disclose at least one of the first and second lenses to be positionable in three dimensions. However, Hanza discloses the lenses to be positionable. Although Hanza does not specifically disclose the lens to be positionable in at least three dimensions, Hanza also does not limit the positioning of the lenses to be less than three dimensions. When the lenses is attached, the lens would need to be placed at the desired location and therefore, when placing and aligning the lens on the circuit, it would then be positionable in at least three dimensions. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a lens positionable in three dimensions.

In regards to claim 14, Hanza fails to discloses at least one of the lenses comprising a positioning member. However, for a lens to be placed in the desired alignment location, there must be a member to move/position the lens. A static lens would not be able to move itself without the aid of an additional member. Therefore, it would have been obvious at the time the

invention was made to a person having ordinary skill in the art to have a lens comprising a positioning member.

In regards to claim 15, although Hanza does not specifically disclose the optical module to comprise an optical multiplexer or demultiplexer, Hanza does disclose the device to include many different optical components. Therefore, since Hanza does not limit the device to the optical elements disclosed, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have included an optical multiplexer or demultiplexer.

In regards to claims 16- 19 and 24-25, Hanza discloses attaching an optical circuit to a base, attaching a first and second optical source to the base, positioning a first lens and second lens between the first and second outputs and inputs and fixing at least one of the lenses in place. But Hanza fails to specifically disclose manipulating at least one of the lenses to obtain a desired coupling. However, Hanza does disclose a phase mask pattern, which is placed on the surface of the circuit in order to determine the position of the waveguide and optical elements. Therefore, although not it is not explicitly stated for the lens to be manipulated so that they are aligned, it would have been obvious at the time the invention was made to a person having ordinary skill in the art that the lenses are manipulated so that they are aligned since Hanza discloses a phase pattern mask placed on the circuit in order to align all of the optical elements.

In regards to claim 20, Hanza discloses attaching at least one of the lenses to the base.

In regards to claim 21, Hanza discloses the claimed invention except for placing the second optical source positioned relative to the first optical source on the case to increase thermal impedance between the optical sources and placing the first and second optical sources so that the first optical source is thermally isolated from the second optical course. However, it

would have been obvious at the time the invention was made to a person having ordinary skill in the art to have placed the optical sources in the desired location, since it has been held that arranging parts of an invention involves only routine skill in the art. *In re Japikse, 86 USPQ 70* Furthermore, by thermally isolating the optical sources and increasing thermal impedance, the optical module would be performing at a more optimal capacity.

In regards to claim 22, Hanza fails to specifically disclose the optical module to be hermetically packaged. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have hermetically sealed the optical module to prevent external factors from affecting the performance of the optical module.

In regards to claim 23, Hanza fails to specifically disclose at least one of the first and second lenses to be positionable in three dimensions. However, Hanza discloses the lenses to be positionable. Although Hanza does not specifically disclose the lens to be positionable in at least three dimensions, Hanza also does not limit the positioning of the lenses to be less than three dimensions. When the lenses is attached, the lens would need to be placed at the desired location and therefore, when placing and aligning the lens on the circuit, it would then be positionable in at least three dimensions. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a lens positionable in three dimensions.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References B and C both discuss optical modules with multiple optical elements on a circuit/substrate.

The documents submitted by applicant in the Information Disclosure Statements have been considered and made of record. Note attached copies of forms PTO-1449.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Wong whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TMW

John D. Lee
Primary Examiner